



Abstract

The present invention relates to an electrowinning cell adapted to recover metal ions from a solution as their corresponding elementary metals. The electrowinning cell includes a reservoir and a filter in fluid communication with the reservoir. The filter is operative to receive a solution containing metal ions from a location proximate to the cathode and to retain a first portion of the solution having a first concentration of metal ions and to remove a second portion of the solution having a second concentration of metal ions lower than the first concentration. The electrowinning cell additionally includes return means operative to return the first portion of the solution to the reservoir. The present invention also relates to a method of concentrating metal ions in a solution for use in an electrochemical cell and to a system for reducing metal ions in a solution to their corresponding elementary metals.